

Complete Summary

GUIDELINE TITLE

Coronary heart disease. Nutrition management for older adults.

BIBLIOGRAPHIC SOURCE(S)

Verderose J. Coronary heart disease. Nutrition management for older adults. Washington (DC): Nutrition Screening Initiative (NSI); 2002. 15 p. [34 references]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Coronary heart disease

GUIDELINE CATEGORY

Counseling
Evaluation
Prevention
Risk Assessment
Screening
Treatment

CLINICAL SPECIALTY

Cardiology
Family Practice
Geriatrics
Internal Medicine
Nutrition
Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Dietitians
Health Care Providers
Nurses
Patients
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To provide nutrition screening and intervention strategies for coronary heart disease (CHD) that will enhance disease management and health care outcomes and that will positively impact individual health and quality of life of older adults.

TARGET POPULATION

Older adults with established coronary heart disease (CHD) or those at risk of developing CHD

INTERVENTIONS AND PRACTICES CONSIDERED

Nutrition Screening and Evaluation

1. Determination of serum lipids
2. Evaluation of food and nutrient intake
3. Measurement of height and weight and calculation of body mass index (BMI); measurement of waist circumference
4. Measurement of blood pressure
5. Evaluation of physical activity level and exercise tolerance
6. Evaluation of smoking habits, medication use, and use of vitamin/mineral supplements/alternative therapies

Nutrition Intervention Guidelines

1. Reduction of saturated fat and cholesterol intake
2. Maintenance of reasonable weight
3. Counseling on moderation of alcohol intake
4. Increased consumption of foods rich in B-complex vitamins
5. Smoking cessation
6. Increased physical activity
7. Nutrition counseling consistent with optimization of blood pressure and blood sugar

MAJOR OUTCOMES CONSIDERED

- Morbidity and mortality due to coronary heart disease (CHD)
- Impact of the following strategies on decreasing the risk of coronary heart disease or preventing progression of disease: normalization of blood lipids

and blood pressure, maintenance of a reasonable weight; maintenance of age/physical status appropriate activity, smoking cessation

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Informal Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Professionals with expertise in nutrition, medicine, and allied disciplines served as authors and reviewers.

The information in A Physician's Guide to Nutrition in Chronic Disease Management for Older Adults-Expanded Version is derived from The Role of Nutrition in Chronic Disease Care, a 1997 Nutrition Screening Initiative (NSI) publication. The authors updated their 1997 work through an extensive review of

the literature, using evidence-based data where possible and consensus-based information when definitive outcomes were not available.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

Virtually all lipid modification trials, including all trials involving pharmacologic agents, have utilized dietary counseling and dietary modification as cornerstones of therapy. With approximately 3 million first-time coronary events estimated to occur over a 10-year period in individuals with total cholesterol levels exceeding 200 mg/dl (5.17 mmol/L), reducing saturated fat intake by 1 to 3% would reduce the incidence of coronary heart disease (CHD) by 32,000 to 99,700 events. This would yield a combined cost savings in medical expenditures and lost earnings ranging from \$4.1 to 12.7 billion over the next 10 years.

Failure to adequately control low-density lipoprotein (LDL) cholesterol levels with diet alone usually results in the prescription of one or more antilipemic drugs to reduce coronary heart disease risk. Costs of treatment can easily run \$1,000 to 2,000/drug annually. Such costs can be significant to older persons living on fixed incomes, and to the health care system as a whole. Failure to emphasize the importance of diet as primary or adjunctive therapy in the management of coronary heart disease frequently results in the need to use larger doses or drugs in combination. Either of these alternatives contribute to increased medical costs and to the increased risk of side effects and adverse drug reactions.

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

An interdisciplinary advisory committee of nationally recognized practitioners in medicine, nutrition, and geriatrics reviewed the chapter related to their area of expertise.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Goals of Nutrition Management

Management of the coronary heart disease (CHD) risk factors is integral to optimal care of persons with established CHD or those at risk for development of this disease. Normalization of blood pressure and/or blood sugar or improved control of hypertension and diabetes mellitus are discussed in other chapters in this series. Diet and exercise are the treatments of choice for CHD as well. Goals of nutrition screening and intervention for those at risk for the development of

CHD are less stringent than those for individuals with documented evidence of CHD and differ primarily in dietary and drug recommendations regarding lipid management and goals for low-density lipoprotein (LDL) and high-density lipoprotein (HDL) cholesterol, and triglyceride levels.

Nutrition Screening Recommendations for CHD

At a minimum, nutrition screening for individuals with CHD should include:

- Determination of serum lipid levels (cholesterol total, LDL, HDL, and triglycerides)
- Evaluation of food and nutrient intake, particularly saturated fat and cholesterol
- Measurement of height (annually in those age 65 and older)
- Measurement of body weight and calculation of body mass index (BMI) at each office visit
- Measurement of waist circumference
- Measurement of blood pressure
- Evaluation of physical activity level and exercise tolerance
- Identification of diet-related diseases or conditions that contribute to CHD
- Evaluation of smoking habits
- Evaluation of current medications use
- Evaluation of patient use of vitamins/minerals and/or complementary/alternative therapies

Use of the Nutrition Screening Initiative's (NSI) Checklist and Level II Screen (see appendix in the original guideline document) provides a structured approach to assess the majority of the elements listed above.

The Level II Screen can be an invaluable initial resource in the identification and treatment of nutritional risk factors associated with CHD.

Nutrition Intervention Guidelines

Consistent with the recommendations of the National Cholesterol Education Project (NCEP 2001) and others, nutrition intervention for CHD should encompass one or more of the following:

- Reduce saturated fat and cholesterol intakes. Recommend a diet < 25 to 35% total fat, <10% saturated fat, and <300 mg cholesterol daily if the individual is at risk for CHD. Further reductions in dietary fat and cholesterol (<25 to 35% fat, <7% saturated fat, <200 mg cholesterol daily) are indicated if the individual has preexisting CHD.
- Maintain a reasonable weight. Adjust caloric and nutrient intakes to facilitate maintenance of a BMI <28.
- Discuss moderate alcohol intake in appropriate individuals. Limit intake to not more than two 12-ounce beers, two 4-ounce glasses of wine, or two jiggers (1-1/2 ounces) of distilled spirits in a 24-hour period for men. Alcoholic beverage recommendations for women are half of this amount.
- Increase consumption of foods rich in the B-complex vitamins (folate, B6, B12) and vitamin E. While speculative, these measures will improve diet quality and may reduce cardiovascular risk.

- Stop smoking. Increases HDL, decreases coronary risk by up to 50%.
- Increase physical activity. Minimum: 30 minutes moderate-intensity activity, 3 to 4 times/week supplemented by an increase in daily lifestyle activity; frail individuals or those at moderate to high risk should be medically supervised.

Nutritional recommendations consistent with optimization of blood pressure and blood sugar should also be emphasized for patients who have these conditions. Diet and lifestyle modifications may be offered as either definitive or adjunctive therapy at the discretion of the primary health care provider. They improve the general risk profile for CHD, offer the potential for multiple health benefits at low cost, and carry minimal risk of adverse effect. The use of these types of interventions in frail elderly should be considered carefully. Frequent monitoring of food and nutrient intake is indicated in these individuals since fat restriction may hamper some people's ability to consume adequate calories and protein to sustain a reasonable weight.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Benefits of Nutrition Management to Patients

- The benefits of nutritional screening and intervention in patients at risk for or with established coronary heart disease (CHD) are considerable. The extent to which serum cholesterol declines depends on the extent to which dietary modification is instituted and maintained. Improvements in CHD mortality are also "dose-dependent". Statistically significant reductions in cardiac mortality ranging from 32 to 66% have been demonstrated in a number of trials of dietary fat restriction in CHD. Unlike trials of medications used to treat CHD, dietary trials have yielded no evidence of an excess of all-cause mortality.
- Serum cholesterol levels can be effectively lowered by dietary and lifestyle modification. Recommendations regarding increased consumption of foods rich in the B-complex vitamins and Vitamin E are reasonable and will result in a diet that is palatable and compatible with good general health and may reduce cardiovascular risk.

Benefits of Nutrition Management to Health Services Providers

- Total blood cholesterol level is conclusively linked to the development of CHD. Most of this risk is associated with low-density lipoprotein (LDL) cholesterol concentrations. A 1-mg/dl reduction in LDL cholesterol levels results in an approximate 1 to 2% reduction in relative risk of CHD.
- Virtually all lipid modification trials, including all trials involving pharmacologic agents, have utilized dietary counseling and dietary modification as cornerstones of therapy. With approximately 3 million first-time coronary events estimated to occur over a 10-year period in individuals with total cholesterol levels exceeding 200 mg/dl (5.17 mmol/L), reducing saturated fat intake by 1 to 3% would reduce the incidence of CHD by 32,000 to 99,700 events. This would yield combined cost savings in medical expenditures and lost earnings ranging from \$4.1 to 12.7 billion over the next 10 years.
- Failure to adequately control LDL cholesterol levels with diet alone usually results in the prescription of one or more antilipemic drugs to reduce CHD risk. Costs of treatment can easily run \$1,000 to 2,000/drug annually. Such costs can be significant to older persons living on fixed incomes and to the health care system as a whole. Failure to emphasize the importance of diet as primary or adjunctive therapy in the management of CHD frequently results in the need to use larger drug doses or drugs in combination. Either of these alternatives contributes to increased medical costs and to the increased risk of side effects and adverse drug interactions.

POTENTIAL HARMS

The use of these types of interventions in frail elderly should be considered carefully. Frequent monitoring of food and nutrient intake is indicated in these individuals since fat restriction may hamper some people's ability to consume adequate calories and protein to sustain a reasonable weight.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Health care professionals must decide how best to implement these recommendations in multiple settings and in patients with diverse needs. It is essential to develop a habitual approach to the nutrition screening and assessment of nutritional status in older adults, and develop policies, protocols, and procedures to ensure the implementation of disease-specific nutritional interventions. The reader should refer to other Nutrition Screening Initiative (NSI) materials for additional information and to facilitate a systematic approach to nutritional care. NSI screening tools are included as appendices of the original guideline document -- DETERMINE Your Nutritional Health Checklist and Levels I and II Screens. The Checklist was developed as a self-administered tool designed to increase public awareness of the importance of nutritional status to health and to encourage older people to discuss their own nutritional status with their primary provider. Based on this guided discussion, the provider can decide if additional screening or assessment is indicated. The Level I Screen was designed for administration by non-physician health care providers in community settings while Level II requires administration by physicians and physician-extenders that have the ability to order and interpret laboratory parameters indicative of nutritional health.

Evaluation Criteria to Document Improved Health Outcomes

Evaluation criteria useful in the documentation of the impact of nutrition screening and intervention on health status are consistent with the goals of nutrition screening and intervention for coronary heart disease (CHD). They are:

- Recommended blood lipid levels
- Maintenance of a reasonable weight (body mass index [BMI] 22 to 27 for those 65 years of age and older, or a weight in the desirable range on standard weight-for-height tables)
- Moderation of alcoholic beverage intake (men, 2 drinks/day; women, 1 drink/day)
- Increased dietary intakes of the B-complex vitamins (folate, B6, B12) and vitamin E
- Prevention or improvement in the contributors to or comorbid conditions associated with CHD (e.g., hypertension, diabetes mellitus, congestive heart failure, arrhythmias, conduction defects, coronary insufficiency)
- Improved physical activity tolerance
- Reduce dosage/elimination of drugs needed to treat CHD

Evaluation Criteria to Document the Impact of Nutrition Management on Health Care Systems

In addition to the evaluation criteria listed above, the following may be used to assess the impact of nutrition screening and intervention for CHD on the delivery of health care. Reductions or improvements in these indicators could be used to document a positive impact of nutrition screening and intervention in individuals to whom routine and appropriate nutritional care is made available.

- Incidence of CHD in the population served
- Incidence/improvement in diet-related diseases or conditions that contribute to CHD
- Type, quantity, or number of doses of a medication(s) needed to treat CHD.
- Number of visits to the health care provider needed to successfully manage CHD
- Rates of admission, readmission, or length of stay in acute or long term care settings for the management of CHD or its consequences
- Incidence/severity of comorbid conditions that are outcomes of unrecognized or poorly managed CHD

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Verderose J. Coronary heart disease. Nutrition management for older adults. Washington (DC): Nutrition Screening Initiative (NSI); 2002. 15 p. [34 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

However, the National Cholesterol Education Program (NCEP) and the American Heart Association Guidelines were a strong basis for the guideline (Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults. Summary of the second report of the national cholesterol education program [NCEP] expert panel on detection, evaluation, and treatment of high blood cholesterol in adults. JAMA 1993 269:3015-23).

DATE RELEASED

1998 (revised 2002)

GUIDELINE DEVELOPER(S)

American Academy of Family Physicians - Medical Specialty Society
American Dietetic Association - Professional Association
Nutrition Screening Initiative - Professional Association

GUIDELINE DEVELOPER COMMENT

The Nutrition Screening Initiative (NSI) is a partnership of the American Academy of Family Physicians (AAFP) and the American Dietetic Association (ADA). It is funded in part through a grant from Ross Products Division, Abbott Laboratories.

Additional information can be obtained from the [AAFP Web site](#) and the [ADA Web site](#).

SOURCE(S) OF FUNDING

The Nutrition Screening Initiative (NSI) is funded in part through a grant from Ross Products Division, Abbott Laboratories.

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Primary author: Jan Verderose, MS, RD, CDN, Pharmaceutical Specialist,
AstraZeneca Pharmaceuticals, Saratoga Springs, New York

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previously published version: Nutrition Screening Initiative (NSI). Nutritional strategies efficacious in the prevention or treatment of coronary heart disease (CHD). Washington (DC): Nutrition Screening Initiative (NSI); 1998. 16 p.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [American Academy of Family Physicians \(AAFP\) Web site](#) and to members only from the [American Dietetic Association \(ADA\) Web site](#).

Print copies: Not available

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Nutrition Screening Initiative (NSI). A physician's guide to nutrition in chronic disease management for older adults. Washington (DC): Nutrition Screening Initiative (NSI); 2002. 18 p.

Electronic copies available in Portable Document Format (PDF) from the [American Academy of Family Physicians \(AAFP\) Web site](#) and the [American Dietetic Association \(ADA\) Web site](#).

Electronic copies also available for download in Personal Digital Assistant (PDA) format from the [American Academy of Family Physicians \(AAFP\) Web site](#).

Print copies: Available from Ross Educational Service Materials; Phone: (800) 986-8503; Web site: www.Ross.com/nsi.

PATIENT RESOURCES

The following is available:

- Managing chronic disease. Food tips if you need extra nutrients. In: Nutrition Screening Initiative (NSI). A physician's guide to nutrition in chronic disease

management for older adults. Washington (DC): Nutrition Screening Initiative (NSI); 2002. 4 p.

Electronic copies available in Portable Document Format (PDF) from the [American Academy of Family Physicians \(AAFP\) Web site](#) and the [American Dietetic Association \(ADA\) Web site](#).

Electronic copies also available for download in Personal Digital Assistant (PDA) format from the [American Academy of Family Physicians \(AAFP\) Web site](#).

Print copies: Available from Ross Educational Service Materials; Phone: (800) 986-8503; Web site: www.Ross.com.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This summary was completed by ECRI on September 1, 1998. It was verified by the guideline developer on December 1, 1998. The summary was updated by ECRI on April 16, 2004. The updated information was verified by the guideline developer on June 21, 2004.

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